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Volume XIV November-December, 1912 Number 6

STUDY OF THE EGGS OF THE *MELEAGRIDAE*

By DR. R. W. SHUFELDT

WITH ONE PHOTO BY THE AUTHOR

WHEN one comes to study the eggs of the various domesticated fowls, and compares those eggs with series of others laid by wild birds, belonging to genera of the supposed-to-be stock from which the several kinds of domesticated ones were derived, it is interesting, and of no little importance, to note the variations which have arisen in the form, colors and markings of the former.

With respect to chickens, for example, the widest variations have become established, since the time of their deviating from the wild stock. The eggs of our true breeds of game hens very closely resemble those of the *Gallus bankiva* of India; while those of all the other fancy and extravagantly formed fowls of the farm and barnyard depart from them in every particular. These are too well known to require any comment here.

As to guinea fowls, there appears to be, upon careful comparison of extensive series of the eggs of the wild birds with those of the domesticated ones, no material difference, and certainly none worthy of mention. This statement is likewise true of the eggs of the wild and tame mallards, muscovy ducks, mandarin duck or Chinese teal (*Aix galericulata*), swans, geese, pheasants, peacocks, and others.

In most of these forms, if not in all, the eggs are unmarked, and therefore any variations that might exist, would be only seen in shape and ground-color. In these particulars, the eggs of the wild birds themselves sometimes exhibit marked variations, as everyone knows who has, for example, ever compared large series of eggs of the wild mallards.

Caton, as I shall take occasion to point out farther on in this article, settled the point that the eggs of tame and wild turkeys were indistinguishable, that is, when we come to compare those exhibiting similar variations; by which is meant,

that when, for example, a wild turkey has laid a very dark egg, densely speckled with still darker spots, we can always find an egg—somewhere—which has been laid by a domesticated turkey, which, practically, would be exactly like it, and so on for other kinds. Beyond such notes as these, however, I shall not enter upon the study of the eggs of the tame turkey in this place, as my object is to record some observations I made upon studying the fine series of eggs of the *Meleagridae* in the collections of the United States National Museum.

Caton's article, entitled "The Wild Turkey and its Domestication" appeared in *The American Naturalist* (vol. XI, no. 6, 1877, pp. 321-330), and he there says, on page 324, "The eggs of the wild turkey vary much in coloring and somewhat in form, but in general are so like those of the tame turkey, that no one can select one from the other. The ground color is white over which are scattered reddish-brown specks. These differ in shades of color but much more in numbers. I have seen some on which scarcely any specks could be detected, while others were profusely covered with specks, all laid by the same hen in the same nest. The turkey eggs are more pointed than those of the goose or the barnyard fowl, and are much smaller in proportion to the size of the bird."

This, in the main, is a fair description of the eggs of *Meleagris,* while at the same time it may be said that the ground color is not always "white," nor the markings exactly what might be denominated "specks."

Turkey eggs of all kinds, laid by hens of the wild as well as domesticated birds, have been described and figured in a great many popular and technically scientific books and other works, in this country as well as abroad. I have examined a large part of this literature; but I soon became convinced of the fact that *no general description* would begin to stand for the different kinds of eggs that turkeys lay. They not only differ in size, form and markings, but in ground colors, numbers to the clutch, and some other particulars. In other words, the eggs of our various breeds of tame turkeys are like the eggs of the several forms of the wild bird, that is, the subspecies known to science in the United States avifauna. Therefore I have not thought it necessary to present here any descriptions of the eggs of the tame turkeys or reproductions of photographs of the same.

Among the most beautiful of the wild turkey eggs published are those which appear in Major Bendire's work. They were drawn and painted by Mr. John L. Ridgway of the United States Geological Survey.* These very eggs I have not only examined, studied and compared, but, thanks to Dr. Richmond of the Department of Birds of the Museum, and to Mr. J. H. Riley, his assistant, I had such specimens as I needed loaned me from the general collection of the Musum so that I might photograph them for use in the present connection. Dr. Richmond did me a special kindness here in selecting for my study the four eggs reproduced in the accompanying illustration (Fig. 82). These are all of *M. g. silvestris.*

Of these numbers 1 and 2 are from the same clutch, and doubtless laid by the same bird (nos. 30014, 30014). They were collected by Mr. J. H. Riley at Falls Church, Va. Number 1 is an egg measuring 66 mm x 45 mm, the color being a pale buffy-brown, finely and evenly speckled all over with umber-brown, with very minute specks to dots measuring a millimeter in diameter. The finest speckling, with no larger spots, is at the greater end (butt) for a third of the egg.

Numbr 2 measures 63 mm x 45 mm, the ground color being a pale cream, speckled somewhat thickly and uniformly all over with fine specks of light brown and lavender, with larger spots and ocellated marks of lavender moderately abun-

* BENDIRE CHARLES. Life Histories of North American Birds with special reference to their Breeding Habits and Eggs. Washington. Govmt. Printing Office. 1892.

dant over the middle and apical thirds, with none about the larger end or remaining third. Number 3 is no. 31185 of the Collection U. S. National Museum (ex

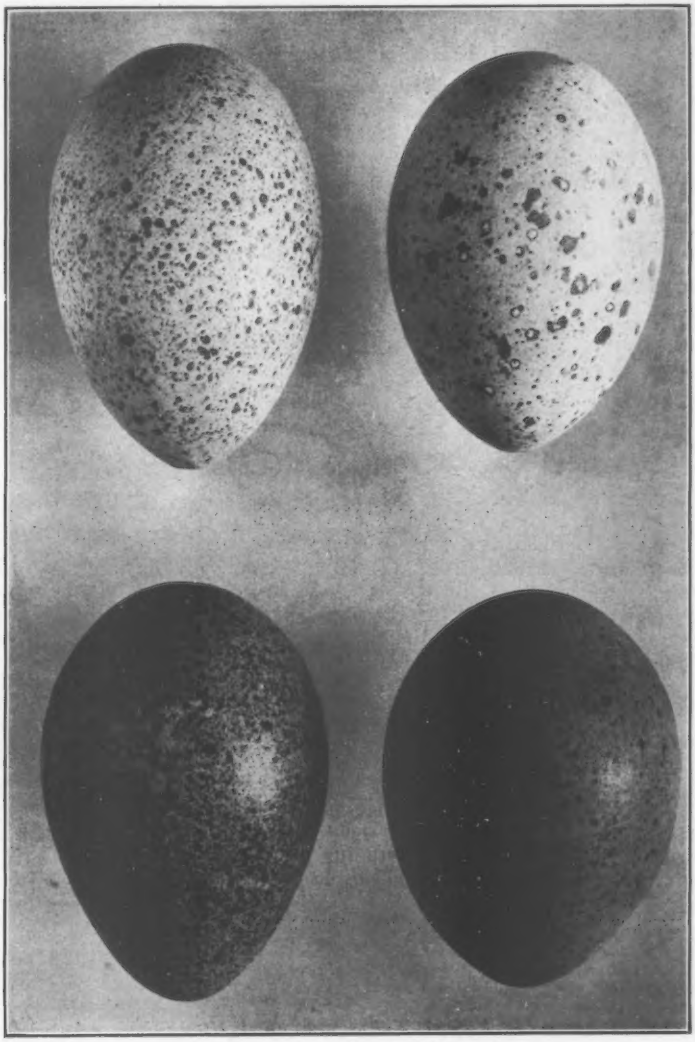

Fig. 82. EGGS OF WILD TURKEY (*Meleagris gallopavo silvestris*) NO. 1, UPPER LEFT HAND ONE. NO. 2, UPPER RIGHT HAND ONE. NO. 3, LOWER LEFT HAND ONE. NO. 4, LOWER RIGHT HAND ONE

Ralph Coll.); it was collected at Bridgeport, Michigan, by Allen Herbert (376 4700 '77) and measures 68 x 45. It is of a rather deep buffy-brown or ochre,

very thickly, and quite uniformly, speckled all over with more or less minute specks of dark brown.

Number 4, collected by H. R. Caldwell (91.310) the locality being unrecorded (Coll. U. S. Nat. Mus., no. 32407) measures 63x48. It is of a pale buffy-brown or pale *cafe au lait* color, quite thickly speckled all over with fine dots and specks of light brown. Some few of the specks are of noticeably larger size, and these are confined to the middle or apical thirds. Speckling of the butt or big end, extremely fine, and the specks of lighter color.

These eggs were selected by Dr. Richmond on the 16th of April, 1912, and photographed by me four days thereafter.

Referring to the Wild Turkey (*M. g. silvestris*), Bendire says (*loc. cit.*, p. 116): "In shape, the eggs of the Wild Turkey are usually ovate, occasionally they are elongate ovate. The ground color varies from pale creamy white to creamy buff. They are more or less heavily marked with well-defined spots and dots of pale chocolate and reddish brown. In an occasional set these spots are pale lavender. Generally the markings are all small, ranging in size from a no. 6 shot to that of dust shot, but an exceptional set is sometimes heavily covered with both spots and blotches of the size of buckshot, and even larger. The majority of eggs of this species in the U. S. National Museum collection, and such as I have examined elsewhere, resemble in coloration the figured type of *M. gallopavo mexicanus*, but average, as a rule, somewhat smaller in size."

"The average measurement of thirty-eight eggs in the U. S. National Museum collection is 61.5 by 46.5 millimeters. The largest eggs measure 68.5 by 46, the smallest 59 by 45 millimeters."

At the close of his account of *M. g. mexicanus*, Bendire states that "The only eggs of this species in the U. S. National Museum collection, about whose identity there can be no possible doubt, were collected on Upper Lynx Creek, Arizona, in the spring of 1870, by Dr. E. Palmer, whose name is well known as one of the pioneer naturalists of that Territory."

"The eggs are ovate in shape, their ground color is creamy white, and they are profusely dotted with fine spots of reddish brown, pretty evenly distributed over the entire egg. The average measurements of these eggs is 69 by 49 millimeters. The largest measures 70.5 by 49, the smallest 67 by 48 millimeters."

"The type specimen (no. 15573, U. S. National Museum collection, pl. 3, fig. 15) is one of the set referred to above" (*loc. cit.*, p. 119).

This set of three eggs I have personally studied. They are of *M. g. merriami*, and I find them to agree exactly with Captain Bendire's description just quoted.*

In the Ralph Collection (U. S. Nat. Mus. no. 27232, orig. no. 1⅞) I examined six eggs of *M. g. intermedia*. They are of a pale ground color, all being uniformly speckled over with minute dots of lightish brown. These eggs are rather large for turkey eggs. They were collected at Brownsville, Texas, May 26, 1894.

Another set of *M. g. intermedia* collected by F. B. Armstrong (no. 25765, Coll. U. S. Nat. Mus.) are practically *unspotted*, and such spots as are to be found, are very faint, both the minute and the somewhat large ones.

In Dr. Ralph's collection (U. S. Nat. Mus. no. 27080) eggs of *M. g. intermedia* are *short*, with the large and fine dots of a pale *orange yellow*. I examined

* Some of the English books contain descriptions of the eggs of our wild turkeys, as for example "A Handbook to the Game-birds," by W. R. Ogilvie-Grant. (Lloyd's Nat. Hist. London, 1897, pp 103-111.)

a number of eggs and sets of eggs of *M. g. osceola,* or Florida Turkey. In no. 25787, the eggs are short and broad, the ground color being pale whitish, slightly tinged with brown. Some of the spots on these eggs are unusually large in a few places, three or four running together, or are more or less confluent; others are isolated and of medium size; many are minute, all being of an earth-brown, varying in shades. In the case of no. 25787 of this set, the dark brown spots are more or less of a size and fewer in number; while one of them (no. 25787) is exactly like the eggs of number 3; finally, there is a pale one (no. 25787) with *fine* spots, few in number in middle third, very numerous at the ends. There are *scattered large spots* of a dark brown, the surface of each of which latter are raised with a kind of incrustation. Another egg (no. 27869) in the same tray (*M. g. osceola*), is *small,* pointed; pale ground color with very few spots of light brown (Coll. W. L. Ralph). Still another in this set (27868) is markedly *roundish,* with minute brown speckling, uniformly distributed. There are nine eggs in this clutch (no. 27868), and, apart from the differences in form, they all closely resemble each other, and this is by no means always the case, as the same hen may lay any of the various styles enumerated above, either as belonging to the same clutch, or at different seasons.

NESTING OF THE ROCKY MOUNTAIN NUTHATCH

By F. C. WILLARD

WITH TWO PHOTOS BY THE AUTHOR

TWO members of the interesting nuthatch family are regular breeders in the Huachuca Mountains. They are the Pigmy Nuthatch (*Sitta pygmaea*), and the Rocky Mountain Nuthatch (*Sitta carolinensis nelsoni*). The latter appears much rarer than the former, but, owing to its more general range in the mountains, I am inclined to believe that it is really the most numerous. The Pigmy Nuthatch is confined to the higher ridges where pine stubs abound. The Rocky Mountain Nuthatch is found all over the mountains, from the oaks at the mouths of the canyons to the highest peaks, and it nests wherever found.

Like their eastern cousin, the White-breasted, these birds talk to each other as they hunt for food along the trunk or branches of some tree. If the female is sitting, the male still keeps up his "talking" as he hunts for food to take to her. It is by watching him at this time that I am able to locate the nest. He usually takes the food for his mate into the nest, but it is a very common thing for her to come to the entrance to receive it, or even to leave the nest cavity entirely.

A natural cavity with a long narrow opening is generally selected. The one shown in the illustration is typical. Nine out of ten nests are in oaks, the balance usually in pines though a sycamore or madrone is occasionally selected.

The nest is a mass of assorted fur and hair of various animals, skunk and squirrel fur, cow and deer hair predominating. I have also found rabbit fur and bear's hair in their nests. Enough is used to completely fill the bottom of the cavity and come up a little on the sides.

Five eggs comprise the usual set, though I once found three about to hatch,

and have taken one set of six fresh eggs. The last week in April is pretty sure to show complete sets with incubation begun, in the lower altitudes, and ten days later for the summits of the mountains. These dates vary considerably with different seasons. May 24, 1909, I collected a set of five half incubated eggs from a pine stub on the summit of the main ridge, altitude 8,450 feet; May 4, 1907, a fresh set from an oak near the summit; June 11, 1908, I photographed an adult feeding young which left the nest two days later, altitude 5,800 feet; May 25, 1909, I found a nest full of young large enough to fly. The nest was in a dead stub of a sycamore in the bed of a canyon, altitude 5,200 feet.

Sometimes the bird sits very close and at others she flushes readily. The

Fig. 83. ROCKY MOUNTAIN NUTHATCH AT ENTRANCE TO NEST, CARRYING FOOD FOR YOUNG

former is usually the case, and she will stay in the nest cavity while it is being chopped open, climbing up into the cavity above the opening. I have never found a nest in a cavity that did not extend above the entrance.

One brood, only, is raised in a season. The same nesting site is sometimes used year after year, though vermin in the nest frequently cause them to select a new location the next season.

This Nuthatch is quite cute about drawing one's attention away from the nesting locality. May 18, 1910, I heard a pair "talking" to each other, and began to trail them. One soon secured some bit of food and started up the steep mountain side with me in hot pursuit. I soon lost sight of it, but discovered the mate close by with some grass or bark or something of that character in its beak. It dove into a cavity of a small oak, and shortly reappeared without

its nesting material. After a few moments calling it was joined by the other one of the pair, and both were soon busy carrying nesting material into the oak. I quietly withdrew, to return ten days later. There were no birds about so I examined the cavity and was chagrined to find only the few bits of grass and fur I had seen them carry in. Some time later I discovered the real nest with its family of large young in an oak some distance farther up the mountain side. It then dawned upon me that they had played this trick, and I had to smile to myself as I realized how nicely I had been hoodwinked.

Fig. 84. NEST MATERIAL AND EGGS OF ROCKY MOUNTAIN NUTHATCH; A LITTLE LESS THAN NATURAL SIZE

A HORSEBACK TRIP ACROSS MONTANA

By ARETAS A. SAUNDERS

IN the summer of 1911 it came to my fortune to take a horseback trip nearly across the State of Montana, starting from Bozeman in Gallatin County, and ending at Chouteau in Teton County. The trip led me through varied valley and mountain country lying on the eastern side of the continental divide. Just a week was occupied in making the trip, from July 10 to 16. At this season of the year the weather in Montana is at its best, and except for one or two days when the heat became a little too great for comfort, this was true of the weather I experienced. The June rains were over, but the dry weather of late summer had not yet come to rob the grass of its fresh green. Many varieties of flowers were in their fullest and freshest bloom, and most birds were finishing their nesting and were still in full song.

The streets of Bozeman are lined with cottonwood shade trees, in which many species of birds are common throughout the summer. On the morning when I started my trip most of them were singing. They were principally common species, such as the Robin, Warbling Vireo, Western Wood Pewee and Yellow Warbler. Among them, however, were two birds, usually occurring only in the evergreen forests of the mountains, that here in Bozeman nest down in the valley among the cottonwoods. These are the Cassin Purple Finch and the Pine Siskin. The song of the Purple Finch I heard in several places on this morning, and in one place watched a brilliantly colored male, rendering his performance from the high branch of a leafy cottonwood. The Pine Siskins were decidedly common. The goldfinch-like song, interspersed with whispered, long drawn out and rather unmusical trills, was heard in the cottonwoods everywhere, and the little brown streaked birds were frequently seen undulating from one tree top to the next.

The first part of my ride lay across the broad Gallatin Valley, through the towns of Belgrade and Manhattan. Everywhere were waving green fields of wheat, oats, barley, or clover and timothy. From a few favored spots came the song of the Bobolink, now fairly common in many places in the valley, but the two birds by far the most common, whose songs could be heard on every side, were the Western Vesper Sparrow and Western Meadowlark. In Montana the Meadowlark is the bird of the people, taking the place in their hearts that the Robin holds with people of the east, or the Mockingbird with those of the south. He is fully deserving of this place too, for no other bird is so well distributed throughout the state, so abundant, so full of joyous, overflowing, wonderful song. He comes with the first return of spring, and sings from the first day of his arrival till late summer, when he stops for a short time, only to burst forth again with the first cool days of fall. In some of the warmer spots he even remains throughout the bleak winter, and occasionally trys his voice on the warmer winter days.

Swallows were fairly common in the valley, wheeling about the ranch buildings. Nearly every barn had its colony of Cliff Swallows nesting under the eaves, and the Barn and Rough-winged swallows, though less common, were seen frequently. In one place where the road crossed an irrigating ditch over a small bridge, a pair of Barn Swallows flew out from under the bridge, and I stopped to investigate, and locate the nest that was plastered against a cross piece beneath. In the Gallatin Valley the Barn Swallow seems much fonder of bridges than barns, in fact one feels inclined to want to change the names of several swallows to suit the locality; to call the Barn Swallow, Bridge Swallow; the Cliff Swallow, Barn Swallow; and to bestow the name of Cliff Swallow upon the Violet-green.

A few miles past Manhattan came the end of the main Gallatin Valley. The road, formerly level, took a decided drop down hill, and, after a mile or so of this, came out at Logan in the Three Forks Valley. I stopped at Logan for a short rest and finally rode on to Three Forks for the night. For several miles the road led across a broad, flat, marshy area between the Gallatin and Madison Rivers. I remember seeing several Long-billed Curlews feeding about one of the pools, but I soon forgot to look for birds and paid all my attention to the myriads of mosquitoes. Nowhere else in Montana have I seen them so abundant as they were here. They swarmed about my head in thousands, and, though we traversed the flat at a lope, masses of them settled thickly on my horse's head

and neck. We were glad to cross the bridge over the Madison River and find shelter from the pests in the town of Three Forks.

In the morning I left Three Forks, crossing over the Jefferson, the third of the rivers which, uniting to form the Missouri a few miles north, gives the place its name. I had now entered Broadwater County. The road here leaves the river and traverses the hills several miles to the west of it. For some distance I climbed up the bare grass hills. The soil was dry and rocky and the country consequently unsettled and used only for stock range. On the east side of the road were several coulees, where sage-brush grew thickly. From one of these came the song of a Sage Thrasher, and I turned my horse up the coulee to hear it better, and finally get a glimpse of the bird. In this part of Montana the Sage Thrasher is decidedly rare. This one made my third in over three years experience, and all the three were in widely separated localities. Sage-brush is slowly disappearing before the advance of settlement in many places, and with it many sage-loving birds are becoming rare. The rarity of the Sage Thrasher, however, cannot be for this reason alone, for there are many places where sage is still common, in which there are no Thrashers.

The song of the Sage Thrasher is something between that of the Brown Thrasher and that of the Solitaire. His voice is very similar to the Solitaire's, and, heard at a distance, the songs sound much alike. From close at hand, however, the song becomes less a mixed jumble of sounds, and the rhythmic quality of the Thrasher is more noticeable. There are certain definite phrases, repeated two or three times as with the Brown Thrasher, but there is no pause between them. I believe the bird is more sparing of its song, not appreciating an audience, but slinking silently off into the sage at the first approach, as this one I was watching did when I drew near.

I soon reached the top of a low divide, in an area of flat open prairie. For several miles here the land was typical prairie land in every respect. The principal vegetation was buffalo-grass and prickly pear, and I was much delighted to find a typical prairie bird, the McCown Longspur. In fact Longspurs and Desert Horned Larks were the only birds there were on this area. The Horned Lark, while common throughout the prairie regions, is found in many other dry grassy areas also, that are not true prairie, but the Longspur belongs to the prairie and the prairie alone. I had not supposed before, that this species ever occurred westward and southward of the main prairie region of the state, and for the remainder of the day I felt the charm and delight of having made a new discovery.

The Longspurs were in full song, a charmingly sweet song, that tinkled across the prairie continually and from all sides. The song has been compared to that of the Horned Lark, but to my mind it is much better. The quality is sweeter and richer; the notes are louder and clearer, and above all, the manner in which it is rendered is so different from that of the lark or of any other bird, that the lark passes into insignificance in comparison. The song is nearly always rendered when in flight. The bird leaves the ground and flies upward on a long slant till fifteen or twenty feet high, then it spreads both wings outward and upward, lifts and spreads its white tail feathers, erects the upper tail coverts and feathers of the lower back, and bursting into song, floats downward into the grass like an animated parachute, singing all the way.

I soon left the prairie behind, and crossed an area where dry farmers had very recently taken up the land. New fences, without gates, stretched across the

former position of the road, and I had some difficulty to find my way. The road finally led northward and eastward, down into the Missouri Valley, through country not unlike that of the Gallatin Valley, seen the day before. I crossed the river on a long bridge and entered the small town of Toston. Both the horse and I were hot, tired and hungry, so I decided to rest the remainder of the afternoon and ride on to Townsend in the cool of the evening. I put the horse in a livery barn and after lunch in a small restaurant, finding nothing of interest in the town, I strolled a little way along the river bank, and sat down in the shade of the cottonwoods.

A pair of Western Kingbirds had a nest full of young in the fork of a cottonwood directly over my head. They started to scold me, but after a short time gave it up and went back to feeding the young again. Their scolding, however, brought out the other feathered inhabitants, consisting of several Robins and Yellow Warblers, a pair of Catbirds, a Western Wood Pewee, and a brilliantly colored Bullock Oriole. They watched me for a time but soon went away and left me to watch the Kingbirds. The young were very noisy. They kept up a continual clatter all the time, varied only when the parents came with food when it became much louder. This nest was the first one I had seen in the fork of a cottonwood. The commonest location for the Western Kingbird's nest in Montana seems to be between the cross arms of a telegraph pole. I had seen several such nests, near the railroad track at Logan the day before. When built in such a place, one of the birds may usually be seen on guard, sitting on the telegraph wire within five or six feet of the nest. In fact, whenever I see a Western Kingbird thus seated on a wire, I look for a nest nearby and am usually successful in finding it. Here in the Missouri Valley the Western Kingbird is decidedly commoner than the eastern species. The reverse is true in the Gallatin Valley, where the elevation is some 700 feet higher, the factor which probably causes the difference.

After some time I wandered out on the bridge I had crossed. Cliff Swallows were nesting somewhere beneath the bridge in large numbers. On the edge of the river not far from the bridge they were gathering mud for their nests, though it seemed to me rather late in the year for nest construction to be still going on. Fifteen or twenty birds were gathered in one spot, gathering the mud. They poised daintily, only their feet and bills touching the mud, while their wings were wide-spread and constantly fluttering.

In the evening I rode on, down the Missouri Valley to Townsend, where I stopped for the night. On the way I was glad to see many Bobolinks, and in one place, several Lark Buntings, a bird quite common in some parts of Montana, but with which I have yet to make intimate acquaintance. One of the Buntings favored me with a flight song, a performance I had never witnessed before.

The next day I rode over a low divide between the Missouri and Prickly Pear valleys, crossing from Broadwater to Lewis and Clark County, and stopping the next night at Helena. After leaving the Missouri Valley the road led for most of the way over a barren rocky stretch of country where there were no birds. When I reached the Prickly Pear Valley it was the middle of the afternoon, when birds were silent and not stirring. I remember but one observation that day that seems worth recording. An electric power line follows the road here for several miles, and near East Helena, I found beneath the wires, the dead body of a Wilson Phalarope. The bird had evidently killed itself by

flying against the wires and had not been dead more than a day or two. I presume from this that the Wilson Phalarope breeds in the marshes of the Prickly Pear Valley, though there were no marshes in the near vicinity of the place where I found the bird.

The next day I decided to take only a short ride, as the weather was hot and trips of the last two days had been rather hard ones, particularly for my horse. So I started rather late and stopped early, going north along the route of the Great Northern Railway as far as a ranch near the station of Mitchell. On the way out of Helena, I remember seeing a Solitaire, seated on a wire in the northern part of the town. It seemed to me a rather low elevation for this bird and decidedly not in its usual habitat. It is possible though, that this species breeds among the rocky cliffs of Mount Helena a few miles west of the town, though even there it would be at an unusually low elevation.

The people were early risers at the ranch where I stopped that night, so I was on my way early on the following morning. A short distance north of the ranch the road entered the Prickly Pear Canyon, and in the next ten miles, between here and Wolf Creek, I enjoyed the best scenery of my entire trip. High walls of reddish colored rock, seamed and broken into rectangular masses, rose on either side, while along the canyon bottom flowed a fair sized stream, its banks fringed with willows, alders, and occasionally tall cottonwoods. On the steep slopes above the canyon walls were clumps of Douglas firs and yellow pines. The road followed along the stream bottom, or occasionally climbed a little way up the hillside on one side or the other, where a better view up and down the canyon could be obtained. Wild rose bushes, covered with pink blossoms, grew in profusion along the road, while syringa bushes, growing in clefts of the rocks, formed dense white masses, often extending high up into the walls of the canyon, the fragrant blossoms filling the air with their sweet perfume.

At Wolf Creek I left the canyon road and turned westward, on the road to Stearns, which was my destination for the night. The road left the canyon and climbed up hill, till it reached a wide stretch of rolling grassy hills. This country, neither valley nor mountain, continued all the way to Stearns. Tall waving, green grass clothed the hillsides, and with it were many flowers of various colors, but the most abundant of these, one whose spire shaped clusters of blue flowers covered the hillsides everywhere, was the lupine. The two most abundant birds, in fact almost the only birds in this country, were the Meadowlark and the Vesper Sparrow. These two birds were everywhere and their songs rang from the grass hills on all sides.

The next morning I left Stearns, which is merely a ranch and post office on the South Fork of the Dearborn River, and rode on northward across the divide between the Dearborn and Sun rivers to Augusta. The same grassy hills continued through the Dearborn country, but where I crossed the main branch of the Dearborn, the road took me down into a steep-sided canyon, whose walls were grown with Douglas fir and limber pine. Here in the firs I heard the voices of two mountain birds, the Audubon Warbler and the Western Tanager.

On the other side of the river I found that the road carried me in decidedly the wrong direction, so, since there were no fences across the grassy hills as far as I could see, I left it and rode across the open country. As I crossed the divide between the drainages of the Dearborn and Sun Rivers, a decided change in the character of the country was noticeable. The rolling, round-topped hills changed to fantastically shaped, flat-topped, prairie buttes, the tall grass and

blue lupine changed to short buffalo-grass and prickly pear, and the bird voices changed from Vesper Sparrows and Meadowlarks, to Horned Larks and McCown Longspurs. Far to the north lay an irregular line of dark green cottonwoods, marking the course of the South Fork of the Sun River, and I knew that somewhere along its banks lay the town of Augusta. The town, however, was on the north side of the stream and completely hidden from my view behind the cottonwoods, so that I was at a loss to know toward which part of the stream to ride. As I drew nearer I made out a ranch building on the south side of the stream and heading toward that, soon struck a road which by good luck, crossed the stream on a bridge, but a quarter of a mile above the town.

The next day was the last of the trip, and over a road with which I was already familiar. Chouteau lay but twenty-eight miles to the north. Four miles out from Augusta I crossed the North Fork of the Sun River, which forms the boundary between Lewis and Clark and Teton counties. On the other side of the river the road led to the top of a long, level, prairie bench, where it remained nearly all the way to Chouteau. At one place in a hollow beside the road, lay one of the small alkaline ponds which are characteristic of this section of the country. I left my horse to graze beside the road, and took a walk around the borders of the pond to see what birds were in the vicinity. A few weeks ago I had explored this same pond, and had found many pairs of Avocets and Wilson Phalaropes evidently breeding. In fact I remember two half-grown Avocets, struggling through the green scum that bordered the pond and swimming away into the open water at my approach, while their parents circled about my head. Now they had all left and the only water birds seen were a flock of ducks, principally Mallards and Baldpates, swimming about near the edge of a small grassy island. Horned Larks and Longspurs fed about the edge of the pond, the Longspurs walking daintily over the green scum at the edge, and eating the small insects that swarmed there. Several young Longspurs, barely able to fly, were here with their parents, and one such had evidently come to grief in its efforts to imitate its parents' example, and was drowned in the midst of the scum.

So far the weather had been perfect throughout the trip, but now as I rode over the prairie bench, I noticed a thunderstorm coming up. I saw that unless I soon got under cover I was in for a wetting, so noticing an old sheep camp in a coulee on the east side of the bench, I turned down there and found shelter for myself and my horse under the shed. The storm came and I was glad I was not out in it, for the rain soon turned to hail, with stones large enough to be decidedly uncomfortable. Even during the storm I found birds to watch, for a Say Phoebe and a small flock of Longspurs came under the shed to seek shelter also. The Phoebe sat on a beam under the roof, quiet save for an occasional flirt of the tail, but the Longspurs walked about, feeding on the ground under the shed as though they were out in the open in the best of weather.

When the storm was over I proceeded on my way. The sun shone out again over the dripping prairie, and the Longspurs broke into song everywhere as though it were a morning chorus. Finally I came to the end of the long bench and the road wound downward through a group of curiously shaped rocks. A colony of Cliff Swallows were nesting on the sides of one of these rocks, while a Rock Wren in song, and a Duck Hawk, wheeling over the prairie were other birds that probably had their homes there. Around a bend in the road I soon came in sight of the Teton River Valley and the town of Chouteau among the cottonwoods of the river bank.

NESTING HABITS OF THE WESTERN BLUEBIRD

By HARRIET WILLIAMS MYERS

THE Western Bluebirds are, as a rule, winter visitants, only, in the vicinity of Los Angeles, staying about in small flocks until spring, when they disappear. Recently, however, some of them have been changing their habits and becoming resident birds.

The only place where I have known of their nesting is in a Los Angeles city park, called Sycamore Grove. This park is a continuation of the Arroyo Seco, and is filled with large live oak and sycamore trees. One side is bordered by a busy thoroughfare where electric cars and vehicles are continually passing. Moreover, this park is a most popular place for picnic parties and is filled with people throughout the summer months. It seemed a little queer that these birds should have chosen so busy a place for a nesting site, when by going a little farther back they could have had perfect quiet.

On the 24th of April, 1910, while watching birds at Sycamore Grove, I noticed a male Bluebird flying about. Having been told that these birds nested in the park the year before, I gave all my attention to locating them. I had waited only a short time when the female appeared on a wire that was strung among the big trees. After darting out into the air and down onto the lawn a few times, she flew up into a tall sycamore tree that grew close beside the walk on that busy thoroughfare, Pasadena Avenue. This tree had four trunks, one of which had been broken off about thirty feet from the ground. A round hole just below the break, partially hidden by a growth of new leaves, suggested that it had once been the nesting site of a woodpecker.

For one hour and thirty-five minutes I watched the nest. During this time the female left four times, staying away five minutes once and eight the other times. Her times for brooding were respectively twenty-two, eighteen, ten, and twenty-four minutes. Almost invariably during this and subsequent watchings the female did not leave the nest until the male came to it. A small broken limb grew out from the nesting trunk and this was used by the male as a resting place. He never brooded the eggs, although sometimes he hopped down into the nest, or beside it, as if to assure himself of their safety; then after a moment's inspection he returned to the resting site, or flew directly away. His coming to the dead branch was always a signal for the female to leave the nest and fly away. It was almost as if the little mother away up there above everything, and with only the blue sky to look at, knew that her mate was thinking of her and would come and remind her, and this he surely did.

He did not seem to guard the nest while the little mother was away, but often accompanied her. Together they foraged about on the lawn or in the trees until time to return to the nest, when quite often the gallant male accompained his mate homeward, then flew away when he had seen her located. Neither bird seemed at all shy, oftentimes foraging about on the lawn only a few feet from where I sat.

Four days later I again visited the nest, staying an hour and a half. During that time the female left the nest four times as before. The longest interval of staying away was twenty-seven minutes; the shortest two minutes. The longest interval of brooding was sixteen minutes; the shortest thirteen. Twice

the male visited the nest for a moment. During one of the brooding intervals a blackbird rested on the telephone wire near the nest, and the male immediately drove him away.

I did not visit the park again until May 3, five days later. Then I stayed only a short time and did little watching, as a picnic party claimed my attention. The leaves had grown so large around the nest that it was harder to watch than at first, and I could not be sure whether the female was still brooding, or not, but from later developments I believe that the young had probably hatched. Three days later, when I watched for an hour, there was no doubt of it. During the hour fifteen trips were made to the nest, the feeding being very equally divided. In fact, with two or three exceptions, the birds were both at the nest at once each of the fifteen times. Several times the female stayed from one and one-half to two minutes at the nest. The male also lingered, though not so long as the female.

Only a few times did I hear either bird utter a note. No song was heard during my watching, only a single call note given in a very low tone. Though many of the writers on California birds speak of the Bluebird's song, I am inclined to think he has none. W. Leon Dawson author of the "Birds of Washington" tells us that in the fifteen years he has studied the Western Bluebird in Washington he has never heard one sing. If so reliable and thorough a bird student as Mr. Dawson has heard no song in Washington, where they nest abundantly, I believe we are quite safe in saying that they have no song. It is an interesting point, well worth the bird lovers' while to observe, should he come across a pair of these birds nesting.

I was prevented from visiting the nest until May 14, when I found the young had flown. They were nowhere about, but a friend told me that she had seen several young bluebirds in another part of the park the day before. On this day I watched at the nest for over an hour, and was mystified at the actions of the birds. It was evident that they were not feeding, and several times both birds made trips of inspection to the nest. The young were not about, nor did the old birds seem to be caring for them, so I came to the conclusion that the birds, having raised their first family, were making preparations for another. On June 2 I visited them long enough to assure myself that they were, indeed, occupying the same nest for a second brood.

Although I have not again watched the nesting habits of these Western Bluebirds I know that they are still about in this park.

FROM FIELD AND STUDY

Notes on the Texas Nighthawk.—The field party from the Museum of Vertebrate Zoology which spent the last season (1912) in the Sacramento Valley remained at Winslow, Glenn County, from June 15 to 20.

About 6 P. M. on the afternoon of June 17 I was tramping over the rocky country bordering Stony Creek, when a Texas Nighthawk (*Chordeiles acutipennis texensis*) was flushed. An examination of the place from which it flew showed the presence of two young, resting side by side on the rocky ground. The parent bird feigned a wound, fluttering about on all sides while I was in the vicinity. When I finally followed it, I was led farther and farther away from the site of the "nest."

On the morning of June 18 I desired to photograph the young birds but either they had moved, or the parent had moved them, and I was unable to locate them, although I went over the ground very carefully and may have looked right at them!

Evidently they were not far away, however, for every time I came into the vicinity the old bird was there to renew her deluding tactics.

I discovered them again on the morning of June 19. They were about fifteen yards from the place where I first found them, and the mother was brooding. The sun beat down fiercely during those days, and I cannot understand how the birds could withstand it on that rocky ground with the granite glare surrounding them and not a particle of sheltering shade.

I hurried to camp for the camera. Fifteen minutes later when I returned one of the young was eight feet from the other. I replaced it, took their pictures, and the photograph here reproduced is the result.

One evening about 8:30 P. M. I passed by the locality, and found that the young were more active then than during the hours of daylight. They would run a few inches at a time in a straight line over the ground, while during the daytime they remained perfectly quiet and gave no sign of seeing the intruder.

The coloration of the young blended so remarkably with their surroundings that it was well-nigh impossible to see them. It was more difficult to see the birds in bright sunlight

Fig. 85. TEXAS NIGHTHAWK NESTLINGS, ILLUSTRATING THE PROTECTIVE NATURE OF THEIR COLOR AND MARKINGS

than at other times. When I returned with the camera the day I took the photograph, I had the utmost difficulty in locating the nestlings, although I knew exactly where they were. In fact, I nearly stepped on one. I had been looking straight at it, but failed to make it out.

Only one parent was noted at any time. The female and young were collected (nos. 22702, 23157, 23158, Mus. Vert. Zool.).

Incidentally Mr. Grinnell informs me that this is to date the most northern record of the breeding of the Texas Nighthawk by over two degrees of latitude.—WALTER P. TAYLOR.

Recent Santa Barbara Records.—Man-o'-war-bird (*Fregata aquila*). On the 12th of August (1912) two of these birds were seen sailing about over the estero near Carpinteria. Upon sighting us they approached curiously, allowing completest inspection, then passed inland nearly a mile, rising to a height of several thousand feet, after which they drove straight west till lost from sight (passing thus directly over Santa Barbara). Another bird was seen by Mr. Torrey and myself close in shore at a point thirteen miles west of town, on the 27th of the same month. Mr. E. S. Spaulding also reports having seen single birds on two occasions near the Santa Barbara pier.

Snowy Heron (*Egretta candidissima*). A single bird in full plumage was sighted on

the sand-spit near Carpinteria, in company with some gulls. It flew at first in wild alarm, but would not forsake its less distracted comrades. Two days later, namely, on the 4th of May, it was seen standing at rest, this time quite alone, upon the mud-flats not half a mile back from the sand-spit.

Anthony Green Heron (*Butorides virescens anthonyi*). The occurrence of this bird is not remarkable for this section, save that its abundance this year is in marked contrast with its total absence last year. It has evidently bred this year at half a dozen near-by stations.

Least Bittern (*Ixobrychus exilis*). Counted a rare bird locally, but its occurrence near Goleta on the 3rd of May completed a list of seven Herodiones seen hereabouts within two days; namely, White-faced Glossy Ibis, Bittern, Least Bittern, Treganza Blue Heron, Snowy Egret, Anthony Green Heron, and Black-crowned Night Heron.

Baird Sandpiper (*Pisobia bairdi*). Of regular occurrence again during the August migrations, from the 8th to the 22nd inclusive. Birds of this species rarely appear by themselves, but mingle freely with the more abundant Westerns (*E. mauri*). However, on the 22nd, a solitary bird settled near me on the Carpinteria beach as though seeking the companionship of a larger wader. I meekly accepted the role of Curlew, and by judicious advances succeeded in establishing a compromise distance of fifteen feet. Back and forth we fared for half an hour, "one little sandpiper and I", the bird keeping steadily to the upper wash-line, or flitting if too hard pressed, while I jabbed the button feverishly as long as the plates lasted. The result is a handsome series of portraits, "if I do say it as shouldn't."

Yellowlegs (*Totanus flavipes*). On the 30th of August five of these birds were sighted in company with two "Greaters" (*T. melanoleucus*), as they fed upon the Beale estero, within the eastern limits of Santa Barbara. Mr. Torrey and I had them under frequent observation for a period of two weeks and I was able to secure a few photographs, albeit indifferent ones by reason of the extravagant alarm invariably displayed by the larger species.

Surf-bird (*Aphriza virgata*). A flock of twenty-three birds afforded three hours of pleasant diversion on a rocky point beyond La Patera, May 3rd, 1912.—W. LEON DAWSON.

The Probable Breeding of the Bohemian Waxwing in Montana.—I have to record the occurrence and probable breeding of a pair of Bohemian Waxwings (*Bombycilla garrula*) on the West Fork of the Sun River in northern Lewis and Clark County, Montana, in August, 1912. I first observed these birds on August 18, a very wet, rainy Sunday, when the shortness of our food supply had tempted me out of camp to try the fishing. I was crossing a small grassy flat along the bank of the mountain stream, which was bordered by scattered clumps of lodgepole pine, spruce and cottonwood, when I first heard waxwing notes that were louder and of a different quality from those of the common Cedarbird. I soon found a waxwing, seated in the dead top of a small lodgepole pine. The light was poor, and the damp weather made my glass almost useless, but I believed that I detected the wing-bar which distinguishes this species from the Cedarbird and was sure that the note was decidedly different. The bird was soon joined by its mate, and I spent the next two hours in watching the pair and searching through the wet bushes for a nest. The birds remained in the vicinity and acted as though they had a nest, probably containing young, but, though it seemed as if I searched every tree and bush within several hundred yards, I failed to find it.

Three days later, August 21, my work took me near this place again. I had no time to make further search for the nest, but took my collecting gun along. I found the birds frequenting the same spot, and after examining them in a much better light than formerly, and finding my former identification correct, I secured one in order that the record would be unquestioned. The bird secured, which I had hoped was the male, proved to be the female. Her throat was much distended and I found that it contained fourteen berries of a small mountain shrub (*Shepherdia canadensis*). Assuming that the feeding habits of this species are similiar to those of the Cedar Waxwing, this fact strengthens my belief that the birds were feeding young in the vicinity. The point where these birds were found is in the Canadian life zone, at an approximate elevation of 5200 feet. This is, to my knowledge, the first authentic summer record of this species south of the Canadian border.—ARETAS A. SAUNDERS.

The Calaveras Warbler in the Yellowstone National Park.—On the morning of September 9, 1912, while examining the remains of birds overcome by noxious gases in the Stygian Cave near Mammoth Hot Springs, Yellowstone National Park, I was surprised to find a Calaveras Warbler in a fair state of preservation. The specimen had evidently not been dead more than twenty-four or forty-eight hours. It was in good plumage and the

characteristic chestnut patch on the head had the feathers slightly tipped with gray. The bird was evidently a migrant. So far as I am aware, this is the first record of the occurrence of *Vermivora rubricapilla gutturalis* in the Yellowstone Park and the first in this part of the Rocky Mountain region. The nearest records hitherto published are those from Idaho and Wyoming. Dr. Merrill (*Auk*, 1898, p. 18) found this warbler breeding at Fort Sherman, Idaho; and Knight (Birds of Wyoming, 1902, p. 145), reports four specimens from southeastern Wyoming but refers them to the eastern form *V. rubricapilla rubricapilla*.—T. S. PALMER.

White Pelican at Bellingham Bay, Washington.—The appearance of White Pelicans (*Pelecanus erythrorhynchos*) in this vicinity is perhaps sufficiently out of the ordinary to be worthy of record. On September 5, 1912, a flock of twenty or twenty-five of this species was seen near the mouth of the Nooksack River, at the head of Bellingham Bay. A resident of the neighborhood who went in pursuit shot three of the birds, and an Indian of the Lummi Reservation, across the river, shot two more. I visited the scene on the following day and inspected the dead birds. One appeared to be an adult, and the four others I judged to be immature. Some of these specimens have since been mounted. There is but one other record of this species in the Bellingham Bay region. That occurrence was about twenty-five years ago.—J. M. EDSON.

"Popular" Ornithology.—During a recent visit to Los Angeles I attended a moving picture show exhibiting at one of the leading play-houses. It purported to represent the Carnegie Museum Alaska-Siberian Expedition in action, and the pictures were explained by a gentleman in evening dress who was no less a person that "Professor ....., M. A., Ph. D.," who had taken the pictures. The pictures were really wonderful, of moose, seals, walruses, polar bears, and Eskimos in life, not to mention bird colonies, which were our particular interest. No one would begrudge good fortune to the doughty captain, F. E. Kleinschmidt, who under the guise of leader of a scientific expedition, is cleaning up a 'cool' half million from this moving picture rights this season. Rarely has the public received more entertainment and profitable instruction for its money than from this show. The "spiel," too, was pretty fair—until it came to the birds. But when pictures of a colony of Red-faced Cormorants were shown upon the screen, and the "Professor" gravely introduced them as Spoon-billed Sandpipers, I gasped. The lecturer proceeded airily to tell a cock-and-bull story about the Spoon-billed Sandpiper, how the female laid only one egg which the male henceforth guarded in terror of his life; and he raised a laugh over the shocking example set by these militant suffragets of the north (unoffending shags!). Next we were taken to view a magnificent colony of Pallas Murres, tens of thousands of them, and these were presented to us as "Red-faced Cormorants." We learned that the females of this species lay two eggs which they carry in the folds of the naked skin (having meanwhile plucked their breasts entirely bare), in order that they might not come in contact with the icy rock, etc., etc. And this Doctor of Philosophy (also Master of Arts, think of it!) did actually take the pictures—no doubt of that—although he seems not to have profited mightily from his "scientific" associations.

Preceded by a professional card, the writer ventured to take the histrionic professor mildly to task after the show. He capitulated at once. "I know I get all balled up on those birds, but what's the odds? *The public don't know the difference.*" And I guess he was right, for this was the fourth week of the engagement.—W. LEON DAWSON.

The Wood Duck at Santa Barbara, California.—On February 18, 1912, I was so fortunate as to come upon a pair of the beautiful Wood Ducks (*Aix sponsa*) in a rather heavily wooded section of Mission Creek, a small stream running along the outskirts of the town of Santa Barbara. I was lucky enough to see them swimming in the stream some distance below me and, by careful stalking, was able to crawl within twenty feet of them, thus enabling me to watch them for half an hour without awakening a suspicion on their part. A week later, on February 25, I once more found them close to the original location, seemingly very much at home, as the male swam and paraded himself to his, and my, heart's content, although his mate seemed too busy eating to pay him much attention.

I left Santa Barbara for the north on February 27, and consequently was unable to finish the study, but I feel that there was a very strong possibility of their remaining to nest. There was a large flow of water in the stream, and a number of most satisfactory hollow limbs in the immediate vicinity; thus it would have been impossible to find more suitable conditions.—J. H. BOWLES.

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EDITORIAL NOTES AND NEWS

With this, the last issue of the year, THE CONDOR concludes its fourteenth volume. Only one preceding volume (1908) has numbered more pages. As for quality of contents we leave the reader to judge. The point in mind is to suggest to all Cooper Club members as well as subscribers that their regular cash contributions are now payable. Remember that early remittances save the Business Managers from much clerical labor. And this means that commensurately more attention can be given to ways and means for further growth.

As for the Editors, their dream is to secure for the coming year the same high standard of articles that have predominated in the present volume. We hope to be able to print illustrated life histories of as high merit as Rockwell's Barr Lake series. There are yet birds of unknown nesting habits which should not be left for Ray alone to exploit! Authoritative faunal lists in moderate proportion are of value as basis for the distributionist's studies. Above all, we invite "Field and Study" notes. Here we get variety of topic and concise treatment. The "Field and Study" department is read by more people twice over than any other part of our magazine. This statement is based upon assurances from many sources. Reviews, communications, and matter for news notes all go to make up the Editorial stock-in-trade. Practically all the material necessary to make a CONDOR must come from the contributor at large. Therefore let those Cooper Club members fortunately situated in respect to such resources remember the Editors early and often.

Sanely administered conservation of natural resources is a much-to-be-desired consummation. This cannot, however, be brought to a satisfactory realization until popular opinion is educated still farther beyond the primitive notion of "everything for today." Certain phases of the bird-life of the west are disappearing at an alarming rate, far faster than is consequent upon the settlement of the country. The proper restriction of hunting privileges must be legalized at once, if certain of our shore birds and ducks are to be saved at all. We would call serious attention to these subjects as discussed in subsequent columns of the present issue. The Club is fortunate in having so energetic an exponent of conservation as W. P. Taylor, chairman of the Northern Division committee. It will require the combined efforts of very many of like industry and enthusiasm to offset the influence of the gunner, when it comes to securing state legislation of an effective sort. This we must obtain *immediately*, or be compelled to witness the complete extermination of many of our native game birds.

COMMUNICATIONS

THE BIRDS OF COLORADO

Editor THE CONDOR:

Perhaps you will kindly allow me a few words in reply to Mr. W. W. Cooke's review of the "Present Status of the Colorado Check-list of Birds." I should like, however, first to thank you and all other of my American ornithological friends for your kind reception of my recently published work on the Birds of Colorado. The time I spent in Colorado was comparatively short, so that I was very much dependent on my friends and correspondents for local observations; but I had the advantage of the very fine collection of Colorado birds made by Mr. C. E. Aiken on which to base my descriptions, and in this way was able I hope to bring to light a good many new facts and at the same time to prepare a work which will always be useful to the Colorado bird-lover.

Mr. Cooke enumerates first of all thirteen species included by me but not by him in his most recent list of Colorado birds (*Auk*, 1909, p. 400); of these he admits six as valid and rejects seven. In regard to these:

Phalaenoptilus nuttalli nitidus. This species I only retained in deference to the A. O. U. *Check-List;* I agree with Mr Cooke that it is probably only a color phase of *P. nuttalli.*

Otocoris alpestris enthymia. I regard this species as a very doubtful one. I would not have recognized it had I been certain of the A. O. U. Committee's final decision in the matter; but the new edition of the *Check-List* did not appear till some time after my manuscript was corrected, and I confess I overlooked the fact that Oberholser's subspecies was omitted.

Agelaius phoeniceus. In my account of this bird I gave after the description some account of the various prevailing views of authorities on the difficult question of the subspecies of Red-winged Blackbirds in the state.

Loxia curvirostra. I was much struck by the great size of the bill of the pair of Crossbills obtained by Aiken in El Paso County. I felt that they must be referred to the larger form known as *L. c. stricklandi.* I see no reason why in the case of a great wanderer like the Crossbill the Mexican form should not stray as far north as Colorado along the Rocky Mountains.

Astragalinus psaltria. I have not come across any "conclusive proof" that the three forms of this goldfinch are color phases due to age. In the typical form generally found throughout Colorado the back is olive green, in the Mexican form the back is black; but I see no evidence that the Colorado subspecies eventually with age becomes black. I think the occasional occurrence of the more southern Mexican form in Colorado is quite conceivable.

Protonotaria citrea. I understood from Mr. Felger that he was quite satisfied that this species had occurred in Colorado.

Of the fifteen birds included by Mr. Cooke in his list, but omitted by me, eleven are mentioned and discussed in the text, though not admitted to the formal list; but I must plead guilty to omitting *Phalaropus fulicarius,* while it would perhaps have been more logical to admit the Pheasant if the English Sparrow is included.

Finally Mr. Cooke mentions a number of birds which I have excluded from my list of breeding birds. In drawing up my list I purposely did not include birds which have only been recorded from the state on one or two occasions; these were placed in the list of casuals. I have not kept birds in the breeding list, although seen several times in summer, unless very definite evidence of breeding is forthcoming.

Yours, etc.,

W. L. Sclater.

London; September 6, 1912.

INTRODUCED BIRDS OF NEW ZEALAND

Editor The Condor:

Today I received a copy of The Condor, which you were kind enough to send me, and I read with deep interest your remarks on the Chaffinch at Monterey. I quite agree with your note of warning in regard to this English bird. From the very unfortunate experiences we have had in New Zealand, I can say without hesitation that people in your country ought to exercise the utmost care in regard to English birds that are brought in.

I am an ardent bird-lover—I love them all, even those with the most objectionable characters—but I must confess that many of the English "interlopers," to use your own word, have proved disastrous failures in this country.

This is the case with some birds which were brought here purely in a spirit of sentiment, notably the skylark, the song-thrush, and the black-bird. They are great pests. We now have a law here prohibiting the importation of any foreign birds without the sanction of a Minister of the Crown. The latest attempt in this direction is the Little Grey Owl (*Athene noctua*), which was brought here to deal with the sparrow and other small birds previously introduced, and which, I am afraid, will have a bad effect on our interesting native avifauna, which, late in the day, we are making a frantic effort to preserve.

Yours truly,

Jas. Drummond.

Christchurch, N. Z.; July 17, 1912.

THE CALIFORNIA ASSOCIATED SOCIETIES FOR THE CONSERVATION OF WILD LIFE.

The following is a copy of a letter recently sent out to the officials of eleven organizations in the State of California:

"Dear Sir:

"It is urgent that vigorous action be taken immediately if it is desired to save the remnant of wild life yet remaining in the State of California. Many native species are suffering a rapid decrease in numbers through several causes, while the ranks of the Army of Destruction receive constant augmentation year by year.

"The Committee on Conservation of Wild Life of the Cooper Ornithological Club (Northern Division) is convinced that the formation of a centralized organization would be beneficial to the cause of saving this natural resource, and hereby asks your society to consider the advisability of the formation of such an association. We therefore request answers to the following questions:

"(1) Do you favor an intelligent conservasion policy with regard to wild life, that the best interests of the farmer, sportsman, nature-lover, and citizen be guarded?

"(2) If so, would your organization be able and willing to be represented at a meeting to be held soon in this vicinity (San Francisco Bay region) to consider the most effective method of securing enlightened legislation along this line?

"Inclosed find list of societies with whom we are communicating as well as a tentative constitution for the associated societies.

"We hope that you may give this matter as early consideration as is convenient, and that you will be able to support the movement."

In this way your committee has taken up a larger work for the native fauna than has hitherto been attempted. The societies addressed are, Sierra Club, Audubon Society, California Academy of Sciences, Biological Society of the Pacific Coast, Los Angeles Zoological Society, Tamalpais Conservation Club, Great Fish and Game Protective Association, California Game and Fish Protective Association, Paleontological Society of the Pacific Coast, and the State Humane Association. There has been cordial response in nearly every case. Only one organization so far, has not favored the move, namely, the California Game and Fish Protective Association. The two organizations named last have not been heard from. The first six have promised their support, and the first four, as well as the Cooper Club will certainly be represented at the organization meeting. It is not unlikely that every one of the above associations, with the exception mentioned, will ultimately affiliate with the new organization.

The immense possibilities of accomplishment along the lines of better game laws and increased publicity of game matters will be apparent. The Associated Societies will start with a membership of between one and two thousand, including many of the most high-minded and influential conservators in the State.

The organization meeting is to be held early in November in the San Francisco Bay region.

Respectfully submitted.

JOHN W. MAILLIARD
H. W. CARRIGER
H. C. BRYANT
J. S. HUNTER
W. P. TAYLOR, *Chairman.*

Committee on Conservation of Wild Life (Northern Division).

COPY OF LETTER AND RECOMMENDATIONS SUBMITTED TO THE CALIFORNIA FISH AND GAME COMMISSION BY THE COOPER CLUB THROUGH ITS COMMITTEES ON CONSERVATION OF WILD LIFE

Berkeley, Calif., Aug. 26, 1912.

California Fish and Game Commission,
734 Mills Bldg.,
San Francisco, Calif.

Gentlemen:

We submit herewith a list of recommendations as regards new legislation which seems to us would be desirable. We are continually impressed with the necessity for haste in securing enlightened game laws if we are to preserve the remnant of wild life within the state. We feel that California should learn from the experience of other states and commonwealths that, in these matters particularly a look to the future is necessary. The non-game birds, the game-birds, the fur-bearing mammals, and the food-fishes constitute an immense asset to the state, financially and esthetically. We believe in a progressive policy along the lines of wild-life conservation, and hope that these suggestions may be of some value.

We advocate above all things the passage of a non-sale of game law, for we believe that in this lies the future of some of our best game birds.

We may define our general attitude as being in favor of further restrictions where necessary to the welfare of wild species. "The wild life of today is not wholly ours, to dispose of as we please. It has been given to us *in trust.* We must account for it to those who come after us and audit our records."

Finally, we take this opportunity of expressing our confidence in the State Fish and Game Commission, and trust that we may be able to co-operate with it in the work of wild life conservation. Respectfully submitted,

Cooper Ornithological Club, by Committee (Northern Division) on Conservation of Wild Life.

H. W. CARRIGER
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Whereas, to the best of our knowledge many game birds and mammals have been greatly reduced in numbers during the past few years, and

Whereas, certain birds and mammals in this state are known to be approaching extinction, and

Whereas, certain birds and mammals known as game are of such inestimable value to the agriculturist and horticulturist that it is to our interest to protect them, we recommend the following new laws and amendments:

1. A law prohibiting the sale in California of American-killed ducks.

2. A law prohibiting the use of automatic guns and silencers.

3. The abolition of the game districts as at present outlined within the State and, if necessary, a redistricting according to life zones and faunal areas.

4. The shortening of the season on certain game birds and the placing of certain birds now considered game birds on the protected list.

5. Reduction of the bag limit on certain game birds.

6. An investigation into the practicability of a campaign against the English Sparrow to be carried on by the State Fish and Game Commission.

7. A law providing for the protection of the Bear, Raccoon, Mink, Badger, Marten, Fisher, Otter, Red Fox, Wolverine, Skunk, and Ring-tailed Cat during all seasons except during the winter when their fur is prime; the seasons to be determined on the basis of the facts of the case in the different species; provision to be made in the law permitting the killing of these mammals by the owner or tenant of any premises when found doing damage; cases of this necessary killing to be reported to the State Fish and Game Commission.

8. The law regarding rabbits to be amended with the provision that the owner or tenant of any premises be permitted to kill cotton-tails and brush rabbits when found doing damage to crops.

A synopsis of our recommendations and short discussions of each follows:

ANIMAL	SEASON	BAG LIMIT
Redhead	Close indefinitely	
Wood Duck	Close indefinitely	
Other Ducks	Oct. 15 to Feb. 1	20 per day (Bag limit on ducks to remain at 50 per week if "no-sale of ducks" law is not passed)
Ibis and all Shore Birds (Limicolae) with the exception of the Wilson Snipe	(excl'de from game birds and place on protected list)	
Rail	(excl'de from game birds and place on protected list)	
Geese	Oct. 15 to Feb. 1	25 per day
Valleyand Desert Quail	Oct. 15to Nov. 15	20 per day
Mountain Quail	Sept. 1 to Nov. 1	10 per day
Grouse	Sept. 1 to Nov. 1	4 per day
Sage Hen	Sept. 1 to Nov. 1	4 per day
Mourning Dove	(excl'de from game birds and place on protected list)	
Band-tail'd Pigeon	Nov. 1 to Feb. 1	15 per day
Sea Otter	protect absolutely, making the killing of the Sea Otter a felony	
Bear, Mink, Otter, Raccoon, Badger, Marten, Fisher, Red Fox, Wolverine, Skunk, and Ring-tailed Cat	Open season only during time when furs are prime	

RED-HEAD DUCK

The Red-head Duck has been greatly reduced in numbers in this state in the past few years. Data collected the past year shows that there came to the markets of San Francisco only 230 Red-heads making a total of .15 of one per cent of the total number of ducks. The Red-head is a resident species and originally was very abundant in this state. Our resident ducks need far more protection than the migratory species. We believe, therefore, that we are justified in recommending the closing of the season indefinitely.

WOOD DUCK

The Wood Duck is probably the rarest duck found in the state. Practically all of the Eastern states protect this bird throughout the year simply because it is found in such small numbers. But two or three wood ducks were seen in the markets of San Francisco during the past season. This shows the scarcity of the bird.

OTHER DUCKS

Most of the other ducks to be found in the state we believe are still in sufficient abundance to withstand a limited amount of destruction at the hands of the hunter. We do, however, recommend the shortening of the season to three and one-half months, Oct. 15 to Feb. 1st, the bag limit to be twenty per day.

We also suggest that the bag limit on all ducks remain at fifty per week if the "no-sale of ducks" law does not pass.

SHORE BIRDS

Most of the game birds have withstood destruction at the hands of the hunter far better than the Shore Birds (*Limicolae*). We believe that the shore birds in California have been greatly reduced in numbers and that many of them are nearing extinction. Consequently we suggest that these birds be taken from the list of game birds and that they be protected the year through. We owe something to future generations and certain it is that our shore birds need protection above all others.

RAIL

We recommend that Rail be excluded from the game birds and placed on the protected list. The California Clapper Rail, the most important one of these birds, is gradually nearing extinction not only because of the hunter but because of the reclamation of the lands frequented by the bird. In order that this valuable bird be conserved we believe it necessary that it be absolutely protected.

GEESE

Geese form a cheap and valuable source of food. The numbers of these birds has greatly decreased and, unless some sort of protection is afforded them, it will not be long before this source of food supply is exhausted. We therefore recommend the placing of an open season of three and one-half months, October 15th to February 1st, on geese. This is the particular time of year during which their depredations in grain fields are most noticeable, so that the open season at this time should prevent any antagonism by ranchers of the state.

VALLEY AND DESERT QUAILS

Owing to the increased number of hunters, the increased facilities of transportation, and the increased efficiency of fire arms, we believe it necessary that the season on quail be shortened. Quails must be considered the most important game birds of the state and therefore it seems our duty to do our utmost to conserve them. The toll taken by hunters during the present open season appears too large to allow these birds to hold their own. We recommend therefore the reduction of the open season to one month, October 15th to November 15th; the bag limit to be twenty per day as heretofore.

MOUNTAIN QUAIL, GROUSE AND SAGE-HENS

Here also we believe that a shortening of the season is needed for conservation. Two months, September 1st to November 1st appears to us to be the proper season.

It is a well known fact that the Sage-hen especially has been greatly reduced in numbers. Consequently, a shorter season must be demanded in order to save this valuable game bird.

MOURNING DOVE

In the East the Mourning Dove is not considered a game bird. For some years there has been considerable sentiment in favor of protecting the bird in this state. The Mourning Dove is probably our best weed-seed destroyer. The U. S. Biological Survey has found as many as nine thousand two hundred weed seeds in the crop and stomach of one dove. The value of this bird to the agriculturist and horticulturist is therefore very great. We believe there will be little hardship to the hunter in foregoing the pleasure of shooting this bird. Its economic value certainly justifies its complete protection. Furthermore the diminutive size of its body minimizes its value as a game bird.

BAND-TAILED PIGEON

Up to the present time the Band-tailed Pigeon has received no protection. The total extermination of the Passenger Pigeon whose habits are somewhat like those of our native bird, emphasizes the necessity of protection for this bird. In that the Band-tailed Pigeon has a very slow rate of production, but one young bird being raised each year, it cannot withstand so large an amount of destruction as has been accorded it during past years. All of the evidence at hand points to the fact that this bird has been greatly reduced in numbers. Its habit of flocking together during its appearance in California allows a slaughter which the bird is unable to withstand.

Lest this bird go the way of the Passenger Pigeon, we recommend that an open season of three months, November 1st to February 1st, be granted, with the bag limit of fifteen per day.

ENGLISH SPARROW

The following is the final decision of the U. S. Biological Survey on the English Sparrow.

"English sparrows are abundant in most of the towns in the United States and in many suburban districts. They are noisy, filthy and destructive. They drive native birds from villages and homesteads. Though they are occasionally valuable as destroyers of noxious insects, all things considered, they do far more harm than good. Practical methods of dealing with them include destruction of nests, shooting, trapping, and poisoning. Of these, trapping is unquestionably the best."

This bird is rapidly spreading here in the state; consequently, we recommend that an investigation be instituted into the practicability of a war of extermination on the English Sparrow, to be carried on by the State Fish and Game Commission.

SEA OTTER

Perhaps the rarest mammal in California and the one whose fur is most valuable is the Sea Otter.

A treaty between the United States and neighboring nations has been drawn up and the law carrying this treaty into effect is now before Congress. We believe that California with its coast line should take an active interest in co-operating with the Federal government in the protection of this extremely valuable mammal and should therefore pass a law absolutely protecting it. In that the prime fur of the Sea Otter is valued at near one thousand dollars, we believe that a law can only be made effective by making the killing of the Sea Otter a felony.

FUR-BEARING MAMMALS

The fur-bearing mammals of the state of California are no small asset. If figures showing the value of furs taken within the state were at hand they would doubtless furnish some astonishing evidence. In order that such mammals as the Bear, Raccoon, Mink, Badger, Marten, Fisher, Otter, Red Fox, Wolverine, Skunk and Ring-tailed Cat be conserved, we believe it necessary that a law providing protection for these mammals, except during the time when furs are prime, should be passed.

There is a great deal of wanton killing of these mammals and it is only right that those still remaining should be killed only when their furs are of value. Provision should be made allowing the killing of any of these mammals found doing damage by any owner or tenant of premises; cases of this necessary killing to be reported to the State Fish and Game Commission.

PUBLICATIONS REVIEWED

A REVISION OF THE SUBSPECIES OF THE GREEN HERON (*Butorides virescens* [LINNAEUS]). By HARRY C. OBERHOLSER. [=Proc. U. S. Nat. Mus., vol. 42, 1912, pp. 529-577.]

In this monograph the author concludes that a proper comprehension of the group in question calls for the recognition of no less than twelve new subspecies, which, with the six previously named forms also recognized in the paper, gives a total of eighteen geographic races of the Green Heron described and discussed.

The new varieties are all from the West Indies, Mexico, and Central America, and their recognition in nowise affects the present arrangement of the A. O. U. Check-List—doubtless to the relief of many. Our southwestern form, *Butorides virescens anthonyi*, is mentioned as one of the best characterized forms of the species; the geographic range ascribed to it is essentially the same as that outlined in the Check-List, though given, of course, in greater detail.

The recognition of such a number of slightly differentiated subspecies (there is one allotted to each of the larger Lesser Antilles south of Guadeloupe, with the exception of St. Vincent) is justified by the author in the following terms: "In the West Indies, either we must recognize a large number of additional forms or merge all. * * *To adopt the latter alternative, however, would be to obscure all the evident and highly interesting, though to some extent puzzling, geographical variations which these West Indian birds exhibit. The writer has, therefore, adopted the former course, as better representing the facts. * * * In one or two cases where forms are separated by a wide geographic area and by intervening races, it has been thought better to recognize by name slight average differences, rather than to refer such a bird to a distant and isolated race, to which, although superficially very similar, it could have no close phylogenetic relationship. This, of course, is the same problem that one meets often in wide-ranging and plastic groups, and which, it seems to the writer, would be in much the best way solved by assigning a name to the isolated colony, if there can be found any characters at all, however slight, to serve as a basis."

The argument is logical and convincing, but even those of us most inclined to admit it, will, I believe, be relieved that the various changes in the group under discussion come no nearer home! Here in the west we have our "colonies" of various species of birds, to which no one as yet has ventured to affix separate names; when they are migratory forms the difficulty of treatment is much increased.

Mr. Oberholser's treatment of the Green Herons, from the amount of material handled, and the evident care with which the problems involved have been worked out, will probably remain authoritative for some time to come.—H. S. SWARTH.

A PARTIAL ACCOUNT OF THE BIRDS IN THE VICINITY OF LAGUNA BEACH. By LEON GARDNER [First Annual Report of Laguna Marine Laboratory, 1912, pp. 187-194.]

A briefly annotated list of fifty-eight species observed during the summer near Laguna and Balboa, on the coast of Orange County, in southern California. The birds are for the most part those known to frequent the general region, but we may, perhaps, be allowed to question the inclusion in the list of both *Toxostoma r. redivivum* and *T. r. pasadenense* as well as *Catherpes mexicanus conspersus*. The use of the term "Brown Blackbird" in place of the familiar "Brewer Blackbird" does not seem a very happy innovation. The observation and accompanying collecting of the birds seems to have been done, judging from the annotations, largely for the study of their parasites.—H. S. SWARTH.

BIRDS OF THE PACIFIC SLOPE OF SOUTHERN CALIFORNIA, by GEORGE WILLETT. [=COOPER ORNITHOLOGICAL CLUB, PACIFIC COAST AVIFAUNA No. 7, 1912, pp. 1-122.]

This publication was mailed to all members of the Cooper Ornithological Club, under date of July 25, 1912. One can only wonder at the efficient management of a club that permits it to send its members, in addition to THE CONDOR, such important publications as this, in return for the small membership fee.

It is needless to say that the appearance of this list has been watched for with more than usual interest by the active workers in the Club, as the work is, in its aim, a recapitulation of all that is known of one phase of the avifauna of southern California. Since 1898, Grinnell's "Birds of the Pacific Slope of Los Angeles County" has been the main reliance of bird students of southern California, and Mr. Willett states in his "Introduction" that it was the first idea of the Club merely to revise this list. The territory, however, was finally extended to include not only the Pacific slope of Los Angeles County, but that of all the rest of southern California, as well. This territory, roughly mapped, includes all that section south of the mountains dividing northern and southern California, and west of the ranges extending from the San Jacinto mountains to the Mexican line, cutting off the Colorado desert to the eastward. The list also includes all of the Santa

Barbara group of islands, eight in number, off the coast of southern California, whereas the Grinnell list included only the water birds in the vicinity of Santa Catalina and Santa Barbara islands. Aside from the increase of territory covered, the present paper closely follows the model set by Grinnell in his 1898 list, especially in the concise manner of recording facts.

Mr. Willett, more than any other southern California ornithologist, has given special attention to the birds occurring along the shore and among the islands off the coast, and his activity has, in a way, set the pace for others, with the result that an immense amount of data has been accumulated. Some of this has been published in random notes, but much of it was kept in cold storage in the inaccessible note books of individual workers. The Club, therefore, was particularly happy in its selection of a collaborator so well qualified to carry out the work. His long list of "acknowledgements" indicates how zealously he has followed up every source of information available. Besides this formal acknowledgement, full credit is given in the body of the work to each individual contributor. Previous to 1898, when the Grinnell list was issued, aside from occasional trips to the islands and along the beaches, no systematic work was done among the water fowl and shore birds. Since that time, under the example of Mr. Willett, that branch of ornithology has been actively investigated, with the result that some thirty-nine species have been added to those recorded in 1898. The total number of three hundred land and water birds recorded in 1898, has been increased to 377 in the present paper, about equally distributed between the land birds, and the shore and water birds. Much of this increase, however, is accounted for by the more extensive territory covered and the greater number of workers over the larger area. The work previous to 1898, was centered in scarcely half a dozen earnest students, in a limited area.

In many cases the notes enable us to make comparisons with conditions which existed previous to 1898. For instance, Grinnell and Gaylord visited a colony of Cassin Auklet (*Ptychoramphus aleuticus*) on Santa Barbara Island on May 16, 1897. In June, 1911, Mr. Willett found "that the old breeding colony of these birds was entirely abandoned. From the bones and feathers of this bird found all over the island, I concluded that they had been exterminated by the cats with which the island is infested. On a detached rocky islet, a quarter of a mile from the main island, I found about one hundred pairs of auklets nesting." It seems that the cat question has thrust itself even to the islands of the Pacific!

The list adheres closely to the nomenclature employed in the A. O. U. Check-List of 1910, although in a number of instances the author differs from this authority on questions of distribution of certain species and subspecies. Indeed, who of our California workers does not? In each case he gives full reason for his contrary opinions. A hypothetical list gives eighteen species of more or less doubtful occurrence. The paper concludes with an index of the scientific and common names of all species noted. That this contribution has passed under the able editorship of Joseph Grinnell and Harry S. Swarth, vouches for its high standard in every respect. Indeed, Pacific Coast Avifauna No. 7 maintains the high standard set by the previous publications of the Club, and is a model which may be enlarged upon, but can scarcely be improved.

FRANK S. DAGGETT.

MAGEN- UND GEWOLLUNTERSUCHUNGEN UNSERER EINHEIMISCHEN RAUBVOGEL, by DR. EUGEN GRESCHIK. [—Aquila, vol. 18, pp. 111-177, 6 figs. in text].

One of the first, and in our estimation one of the best of the publications of the U. S. Biological Survey, was Fisher's "Hawks and Owls of the United States." As the economic value of the birds of prey is far more evident than that of other birds, it seems very fitting that these birds should be the first ones to be considered by the economic ornithologist. In several foreign countries interest is centered at the present time in the food of hawks and owls.

In *Aquila* for 1911, Dr. Eugen Greschik continues a report of his researches on the food of the native birds of prey of Hungary. The paper is entitled: "Stomach and Pellet Examination of Our Native Birds of Prey." The first installment, published in *Aquila* for 1910, furnished evidence as to the food of the hawks, whereas the more recent article deals with the owls.

The introduction to the last contribution points out the need of protection for owls, owing to the great yearly slaughter. Evidence is advanced that at least 11,593 Uhreulen and 18,738 other owls were shot in 1907. Attention is called to the value of these birds to the agriculturist and forester, so that better protection may result. Reference is also made to the economic work of the U. S. Biological Survey, and to that of certain European museums and societies. Emphasis is laid on the necessity of "positive data" as to the food of birds as a means of determining their real value.

A discussion of the food of the seven species of owls to be found in Hungary forms the main part of the paper. Short descriptions of the habitat and habits, and figures of the

commoner species with accompanying figures of pellets, are added for the benefit of the agriculturist. The result of the stomach and pellet examinations are given in tabular form. Data consisting of the date, locality, and the kind and number of insects and animals making up the food, is given for each stomach and pellet examination. These tables answer for the owls, therefore, two questions submitted by the author in his introduction: How much food do birds consume? and: What kind of food do they take?

According to the tables, the field mouse (*Microtus arvalis*), and the Waldmaus (*Mus sylvaticus*) and the house mouse (*Mus musculus*) is the food most often taken. Shrews, sparrows, frogs, and insects, and even occasionally larger mammals such as the rabbit and weasel, were found to make up a small percentage of the food.

Evidence of the occurrence of certain small mammals abundant in Germany but seldom recorded in Hungary, was presented by the discovery of an Ackermaus (*Microtus agrestis*) in the stomach of an Uhu (*Bubo bubo*), and of the nordische Wuhlratte (*Mus ratticeps*) in the stomach of a Waldkauz (*Syrnium aluco*).

Constant reference to the results of similar investigations in Germany strengthens the evidence. The large number of pellet examinations recorded, shows the interest taken in this line of work in Germany. Of the Schleireule (*Strix flammea*) alone, 703, 9,472, and 2,821 pellets have been examined by three different investigators.

Dr. Greschik's doctor's thesis entitled: "Beitrage zur Kenntnis der Molaren der einheimischen Murinen," published in 1910 *Aquila*, was a contribution of permanent value. The determination of seeds, insects, and animals found in the stomachs of birds is not an easy task, and the presentation of improved methods adds to the accuracy and efficiency of future workers in the field. The method of determining species of mice by means of tooth characters described by Dr. Greschik furnishes a dependable method of determining species.

We therefore recognize in Dr. Greschik's present contribution the same admirable type of work as that to be seen in his thesis. The desire to furnish "positive data" as to the food of birds is the ideal that should lead and influence every economic ornithologist. May the day be hastened when still more of this type of work will be seen in our ornithological and agricultural publications.—H. C. Bryant.

Michigan Bird Life. By Walter Bradford Barrows, S. B. [Special Bulletin of the Department of Zoology and Physiology, Michigan Agricultural College, 1912, pp. i-xiv, 1-822, 70 pls., 152 figs. in text].

This should be an extremely useful book to anyone interested in Michigan birds—to the specialist desiring accurate, thorough information regarding the species occurring in the state, to the student endeavoring to identify birds, either alive or in the hand, or to the "average citizen" out for sport or recreation, who chances upon some interesting specimen. The treatment seems adequate to meet any of these contingencies. Descriptions are brief, but accurate, bringing out clearly the salient features of the species. The accounts of the life histories and status within the state of the various species treated, have evidently been most carefully drawn up; and in the doubtful cases, such as *Bonasa u. umbellus* and *B. u. togata*, the facts in the case are impartially submitted, while the conclusions drawn seem sound and sensible. "Keys" are used, but not to excess, and there is a sufficiency of excellent illustrations so that the person needing the "key" (and who but seldom uses it) will in many cases be able to utilize the pictures as short cuts to the information desired.

The introduction may be profitably read and studied by ornithologists of any region, the author's remarks on distribution, the changes produced by varying conditions in the state, methods of study, migration, and kindred subjects being eminently interesting and suggestive.

On the whole this account of the birds of Michigan appeals to the reviewer as a most admirable piece of work. Not the least of its merits is the fact that it has been published in such a way as to be obtainable by those who will most need and appreciate it.—H. S. Swarth.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

August.—The August meeting of the Southern Division of the Cooper Ornithological Club was held on August 29, 1912, in the Committee Room of the Museum of History, Science and Art. Mr. F. S. Daggett was elected temporary chairman.

The following members were present: Appleton, Daggett, Law, Rich, Zahn.

The minutes of the Southern Divsion for July were read and approved. Upon motion of Dr. Rich, seconded by Mr. Zahn, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership, Messrs. Samuel Hubbard, Jr., Jesse J. Wood, William A.

Magee, Jr., and Mrs. J. W. Wheeler, nominated at the last meeting.

Applications for membership were presented as follows: Frank C. Clarke, 218 East Hall, University of Cal., Berkeley, Calif., proposed by H. C. Bryant; Harry Telford, Klamath Falls, Oregon, proposed by Stanley G. Jewett; L. Alva Lewis, 809 Yeon Bldg., Portland, Oregon, proposed by Stanley G. Jewett; F. H. Fawcett, Narrows, Harney Co., Oregon, proposed by Stanley G. Jewett.

Upon motion by Mr. Law, seconded by Dr. Rich and unanimously carried, the Southern Division approved heartily the action of the Northern Division in electing to honorary membership Mr. Frank Stephens of San Diego.

The Secretary read an interesting paper on "Bats as Desirable Citizens," by J. Grinnell, which called forth much discussion on a little known subject.

On adjournment, the members present were shown through the museum room and noted many interesting additions since the last meeting. Adjourned.—J. E. Law, *Secretary.*

September.—The September meeting of the Southern Division of the Cooper Ornithological Club was held on September 26, 1912, in the Committee Room of the Museum of History, Science and Art, with vice-president Lelande in the chair.

The following members were present: Chambers, Cookman, Daggett, Davis, Howell, Hubbs, Lelande, Miller, Owen, Rich, Robertson, Van Rossem, Willett, Wood, and Law; and as visitors, Mr. and Mrs. Sowers.

The minutes of the August meeting were read and approved, and the minutes of the Northern Division for September were read. Upon motion by Mr. Willett, seconded by Mr. Miller and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Messrs. Frank C. Clarke, Harry Telford, L. Alva Lewis and F. H. Fawcett, proposed at the last meeting.

Applications for membership were presented as follows: Alfred Cookman, Los Angeles, proposed by Evan Davis; Hans Hochbaum, Los Angeles, proposed by Loye Miller; Morris Johnson, Valley City, North Dakota, proposed by Vernon Bailey; Pierre E. Letchworth, Jr., Covina, proposed by A. B. Howell; E. W. Merrill, Sitka, Alaska, proposed by G. Willett; Wilson P. Gee, Berkeley, proposed by H. C. Bryant; Forrest S. Hanford, Santa Maria, proposed by H. W. Carriger, and John N. Loshinski, Berkeley, proposed by H. C. Bryant.

The resignation of Mr. Clarence Birdseye was accepted with regret. Mr. Birdseye expects to spend considerable time in extreme Northeastern America. The Committee on Game Protection was empowered to consider and take final action with regard to the proposed combination to be known as the Associated Societies for the Protection of Wild Life. The Secretary was instructed to get more data with regard to the probable and possible expense of such Association. The action of the Northern Division was approved, and the Secretary of the Southern Division was accordingly instructed to sign and forward a letter to the American Ornithologists' Union suggesting that the Society meet in San Francisco in 1915. The following amendment to the Constitution was adopted, subject to the approval of the Northern Division: Article 10, Section 4 to be repealed and a new Article 10, Section 4 to take its place and to read as follows: "All members in good standing and all honorary members shall receive The Condor free of charge, and shall be entitled to Avifaunas as they appear, under whatever conditions the Business Manager at the time deems expedient."

Mr. George Willett then gave a very interesting talk on his recent trip to Alaska for the Biological Survey, on which he obtained and observed many rare birds. Mr. Willett exhibited specimens of the Horned Puffin, Ancient, Marbled and Kittlitz Murelets, Sooty Grouse, four specimens of Dixon Ptarmigan, of which there are but few other specimens in collections, and a series of the Fork-tailed Petrel, from downy young to adult. Mr. Willett in less than two months, observed eighty-five species of birds. Adjourned.—J. E. Law, *Secretary.*

NORTHERN DIVISION

September.—The September meeting of the Northern Division was held at the Museum of Vertebrate Zoology, Saturday evening, September 21, with President Coggins in the chair and the following members present: Messrs. Bryant, Carriger, Coggins, Grinnell, Mailliard, Shelton, Swarth and Taylor. Mrs. Grinnell and J. N. Loshinski were visitors. The minutes of the August meeting were read and approved, followed by the Southern Division August minutes.

New names were proposed as follows: W. B. Bell, Agricultural College, North Dakota; C. C. Schmidt, University, North Dakota; M. Johnson, Valley City, North Dakota; H. V. Williams, Crafton, North Dakota; and A. Eastgate, Tolna, North Dakota, all presented by Mr. Vernon Bailey; W. P. Gee, Berkeley, J. N. Loshinsky, Berkeley, and F. C. Clarke, Berkeley, presented by H C. Bryant; and F. S. Hanford, presented by H. W. Carriger.

W. P. Taylor, chairman of the committee

on conservation of wild life, gave a report, briefly outlining the work accomplished by the committee, and sketching some of the plans for the future

It was suggested that the Club renew its petition to the American Orthnithologists' Union, requesing that society to hold its annual meeting in 1915 in San Francisco, jointly with the Cooper Club, as contained in a resolution passed at the October, 1911, meeting. The secretary was instructed to draft such a proposal and send it to the Southern Division for its approval.

The paper of the evening was "The Relation of Birds to a Grasshopper Outbreak in California," by H. C. Bryant, presenting some of the results of a study of the actions and diet of certain species of birds during a plague of grasshoppers in the San Joaquin Valley. Adjourned.—H. S. SWARTH, *Secretary.*

OCTOBER.—The October meeting of the Northern Division was held at the Museum of Vertebrate Zoology on Saturday evening, October 19, with President Coggins in the chair, and the following members present: Bryant, Coggins, Gifford, Heinemann, Joseph Mailliard, Miner, Shelton and Swarth. Mr. A. L. Barrows was a visitor. The Northern Division minutes for September were read and approved, followed by the reading of the Southern Division September minutes.

The following individuals were elected to membership in the club: F. S. Hanford, J. N. Loshinski, W. P. Gee, F. C. Clarke, W. B. Bell, C. C. Schmidt, M. Johnson, H. V. Williams, A. Eastgate. New names were presented as follows: Hilda Wood Grinnell, proposed by J. Grinnell; A. L. Barrows, Berkeley, by H. C. Bryant; Hans. Hochbaum, Los Angeles, by L. H. Miller; A. Cookman, Los Angeles, by Evan Davis; P. E. Letchworth Jr., Covina, by A. B. Howell; E. W. Merrill, Sitka, Alaska, by G. Willett; and W. A. Squires, Stockton, by W. Lee Chambers.

The only new business was the ratification of the amendment to the Constitution dealing with the distribution of Club publications, already passed by the Southern Division.

Mr. Coggins read some extracts from Cassinia, as of especial interest to California ornithologists. In the absence of Mr. Taylor the report of the conservation committee was read by Mr. Bryant. Mr. Gifford, in the course of an account of some of his experiences with wild ducks in an aviary, made a strong plea for the great value of experimental work with captive birds, as supplemental to field work and the study of museum material. Some of his remarks were illustrated with study skins showing certain of the more unusual plumages; and the speaker pointed out the danger of drawing erroneous conclusions from the mere observation of these conditions without a thorough knowledge of the life history of the bird. His remarks called forth a rather extended discussion of the subject.

Mr. Bryant had on exhibition a series of wall charts showing the food of certain species of birds, these being destined for use in an exhibit which the State Fish and Game Commission is to place in the Alameda County Fair. Adjourned.—H. S. SWARTH, *Secretary.*

REPORT OF ORGANIZATION MEETING, CALIFORNIA ASSOCIATED SOCIETIES FOR THE CONSERVATION OF WILD LIFE

It now (November 14) becomes my pleasant duty to transmit a record of the organization meeting of which mention is made on page 227. Representatives of nine organizations, as well as all the members of the Cooper Club Committee on Conservation of Wild Life (Northern Division), and Secretary Schaeffle of the Fish and Game Commission, were present at the meeting. Instead of a membership of five societies and between one and two thousand individuals, as prophesied on page 228 of this issue, the California Associated Societies for the Conservation of Wild Life was inaugurated with a constituency of nine societies having a total membership of between nine and ten thousand persons.

The Executive Committee of the new association consists of the following persons: Dr. William F. Bade, Sierra Club; Roy E. Dickerson, Paleontological Society of the Pacific Coast; J. Grinnell, California Academy of Sciences; Matthew McCurrie, State Humane Association and San Francisco Society for the Prevention of Cruelty to Animals; W. Leon Dawson, State Audubon Society of California; Professor L. L. Burlingame, Biological Society of the Pacific Coast; J. H. Cutter, Tamalpais Conservation Club; W. P. Taylor, Cooper Ornithological Club. Dr. William F. Bade of the Sierra Club was elected President of the California Associated Societies, and W. P. Taylor of the Cooper Club, Secretary.

A program of practical work was outlined, and it is intended to push with all diligence the passage of laws desired for wise conservation of wild life.

The most important and immediately desired measures are the following: (1) A no-sale of American-killed wild game law. (2) A law placing all assistants and deputies of the Fish and Game Commission under Civil Service. (3) The absolute protection of the Redhead, Wood Duck, Ibis, Shore-birds, Rail, Band-tailed Pigeon, Mourning Dove, and Sea Otter.

W. P. TAYLOR, *Chairman*
Committee on Conservation of Wild Life, Northern Division.

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